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other articles by Professor Giglioli are published in the *Archivio per l'Antropologia e l'Etnologia*, Florence.

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#### NOTES ON INORGANIC CHEMISTRY.

IN the *Comptes Rendus* the question of the identity of argon with nitrogen is taken up by H. Wilde, and the description given of an attempt to convert the spectrum of the one into that of the other. At a pressure of one millimeter and temperature of  $-76^{\circ}$  the electric spark was passed through nitrogen for eight hours, but the spectrum remained unchanged. A negative result was also obtained when a strong spark was passed for eighteen hours through nitrogen at a pressure of twenty atmospheres. The spectrum of argon also remained unchanged by the passage of the spark at a pressure of three millimeters at a temperature of  $-76^{\circ}$ .

THE work of Moissan on the metallic carbids and silicids has now been carried out, in conjunction with P. Williams, on the borids of the alkaline earths. Calcium borate, aluminum and carbon are heated together in the electric furnace. Calcium borid is obtained as a fine black powder which under the microscope consists of transparent, yellow, cubic crystals. They scratch the ruby, and are fusible at the temperature of the electric furnace. The crystals do not burn in the air until heated to redness; fluorin attacks them in the cold, chlorin at a red heat; hydrogen is without action at this temperature. Water is without action upon the crystals until a temperature of  $1000^{\circ}$  is reached. The fused borid is, however, acted upon by water with evolution of hydrogen. The borid has the formula  $\text{CaB}_6$ , but there seems to be a less stable borid with a smaller proportion of boron. The strontium and barium borids are similarly formed and possess analogous formulæ and properties. The borids of the alka-

line earths thus do not fall in the same class with the carbids and silicids.

PROFESSOR MICHAELIS, of the University of Rostock, has published, in the last *Berichte*, the description of a considerable number of organic compounds of selenium, tellurium, antimony and bismuth. The tetrachlorids of selenium and tellurium unite with aromatic ethers, phenoles and ketones, giving products in which two atoms of chlorin are replaced by the organic radical. When the dichlorid of selenium is used, both chlorin atoms are replaced. The close analogy between selenium and tellurium is shown in these compounds. With antimony chlorid, anisol and phenetol react in benzene solution only in the presence of metallic sodium. Compounds of antimony with three and two anisyl groups are described, as well as a number of addition products in which the antimony is quintivalent. Analogous bismuth compounds are similarly formed. The whole work forms a valuable contribution to the relatively little known field of the compounds of organic radicals with the elements of higher atomic weight.

IN the above number of the *Berichte*, Melnikoff and Pissarjewsky discuss the constitution of the salts of peruranic acid, which have been previously studied by Fairley. They consider the salts to have the formula  $(\text{R}_2\text{O}_2)_2\text{UO}_4$ , and to be compounds of the metallic peroxids with uranium tetroxid. By treatment with aluminum hydroxid they succeed in actually decomposing the salts into the peroxids and  $\text{UO}_4$ .

GEORG BERG has added to the number of 'complex acids' a compound of titanac acid with malic acid. As described in the *Zeitschrift für anorganische Chemie* it has the formula  $2\text{TiO}_2 \cdot \text{C}_4\text{H}_6\text{O}_5 \cdot 6\text{H}_2\text{O}$  and crystallizes in minute white prisms. When ammonia is led over it, three molecules of the water of crystallization are replaced by ammonia,

giving another instance of the chemical resemblance between  $H_2O$  and  $-NH_3$ .

In the *Z. Ver. Rübenzucker-Industrie*, A. Herzfeld has a series of articles on lime ( $CaO$ ) and its compounds. They refer largely to experiments carried out in a furnace of special construction for the purpose of solving the chemistry of lime making. Among other conclusions reached, we note that in the presence of superheated steam the complete burning of lime takes place at  $200^\circ$  lower than in air; that water will expel the carbon dioxide from all its compounds at  $800^\circ$ ; and that the overburning of lime is occasioned almost exclusively by the presence of silica.

A new locality for Chili saltpeter has been discovered, according to H. Thoms, in the *Journal für Landwirtschaft*, in southwest Africa in the Kharas Mts. and on the Orange River. The mineral, known locally as Klipzweet, or Boemester, appears as an efflorescence on the rocks, and is used by the natives as a valuable remedy for many ills. Analysis shows it to contain chiefly sodium and potassium nitrates and chlorids, about three parts of sodium to one of potassium, and four parts of nitrate to one of chlorid; it may thus be considered to be an impure Chili saltpeter. No particulars are given as to its abundance, or possible economic importance.

J. L. H.

#### SCIENTIFIC NOTES AND NEWS.

##### THE MARINE BIOLOGICAL LABORATORY AT WOODS HOLL.

THE winter meeting of the Trustees of the Marine Biological Laboratory was held in Boardman Hall, Cornell University, upon December 30th. Twelve members of the Board were present, including the President, Professor Osborn, of Columbia; the Secretary, Professor Bumpus, of Brown; Chairman of the Executive Committee, Dr. E. G. Gardiner, of Boston; Professor Clarke, of Williams; Profes-

sor Macfarlane, of Pennsylvania; Professor Penhallow, of McGill; Professor Metcalf, of Baltimore; Professor Patten, of Dartmouth; Professor Morgan, of Bryn Mawr; Professor Peck, of Williams; Professor Wilson, of Columbia; Professor Trelease, of St. Louis. Professor Conklin, of the University of Pennsylvania, was present at the preliminary conference held on Tuesday evening.

The Secretary reported that the Laboratory Prospectus for the summer session of 1898 had been prepared by the Director and was ready for distribution. This prospectus for the eleventh session of the Laboratory provides for the representation of nearly all the universities of the country in the corps of lecturers and instructors. Investigation in Zoology will be under the direction of Professors Ayers, Bumpus, Conklin, McMurich, Metcalf, Morgan and Morrill. The embryological course will be under the direction of Dr. F. R. Lillie, of Michigan, assisted by Messrs. Strong, Cramp-ton, Treadwell and Professor Clapp. The course in Anatomy will be under the direction of Professor Peck, of Williams, assisted by Messrs. Dahlgren, Greene, Lefevre, Murbach, Packard and Waite. The course in Physiology will be under the direction of Professor Loeb, of Chicago, assisted by Messrs. Norman and Lyon. The course in Botany will be under the direction of Professor Davis, of Chicago, assisted by Messrs. Moore, Caldwell, Harper, Fairchild, Webber, Swingle and Esten. The institutions represented in the whole staff are: Missouri, Brown, Pennsylvania, Michigan, Baltimore, Bryn Mawr, Hamilton, Columbia, Miami, Mt. Holyoke, Princeton, Leland Stanford Jr., Johns Hopkins, Detroit High School, Chicago, Harvard, Texas, Bradley Institute, Lake Forest, New York Experiment Station and the United States Department of Agriculture. Special seminars in Embryology and Neurology will be conducted by Drs. Conklin, Morrill and Strong. A course of historical lectures will be given by the Director and Drs. Wilson, Morgan, Wheeler, Watasé and Mall. Upon the list of regular evening lecturers upon General Biology are those who have already contributed to the regular evening course, together with some others. The course of instruction in